WORKING PAPER

Executive Summary

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THE IMPACT OF AGING ON FINANCIAL MARKETS AND THE ECONOMY: A SURVEY

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All major industrial countries will experience significant population aging over the next several decades. In both academic circles and the business press it is widely believed that population aging will have important effects on financial markets because of its expected impact on saving rates and the demand for investment funds. This paper reviews the literature on the macroeconomic and asset market effects of population aging, focusing on four related issues: (a) The impact of population age structure on aggregate household saving; (b) The effect of population aging on investment demand; (c) Evidence on the influence of population age structure on financial market asset prices and returns; and (d) Effects of globalization on our interpretation of the impact of demographic change.

(a) Both microeconomic and macroeconomic studies find that the observed age profile of saving roughly conforms with the life-cycle model, which implies that saving rates rise over a worker's active career and then decline in retirement. The magnitude of implied effects across the two kinds of study is not consistent, however. Compared with macroeconomic analyses, microeconomic studies tend to show smaller variation in saving rates over the life cycle. One reason for the discrepancy may be that most microeconomic studies fail to include or accurately measure workers' pension fund saving. Another measurement issue arises because of the highly skewed distribution of wealth and saving across households. A small percentage of households accounts for an out-size fraction of private saving and wealth accumulation, and the behavior of high-saving households is poorly represented in most microeconomic surveys.

(b) According to standard neoclassical growth theory, slower labor force growth associated with population aging should reduce the demand for domestic investment, offsetting part or all of the expected decline in domestic saving. Empirical studies of the implications of demographic change for investment expenditures have largely been based on aggregate data. A critical question for future investment returns and cross-border capital flows is whether population aging in the high-income countries will reduce the rate of domestic investment by more than it reduces saving. At this stage in the research, conclusions about the relative magnitude of the changes in rates of saving and investment remain very sensitive to modest changes in the research design and the data employed.

(c) Population age structure can influence the demand for different classes of financial market assets both because of its effect on saving and because young, middle-aged, and elderly savers may seek to hold their assets in different forms. Empirical studies have uncovered evidence that population age structure affects stock market prices and the real returns of different classes of financial assets, but the consistency of this evidence is not overwhelming. It is unclear whether the effects of demographic influences on asset prices and returns are large relative to the effects of other and less predictable determinants of prices and returns. The estimated effects of demographic factors are sensitive to the start and end dates of the period covered by

the analysis and to the countries included in the sample. Researchers sometimes find that the estimated effects of population aging have the opposite sign in different countries, even countries which share similar demographic histories and financial institutions. Economists have offered plausible explanations for the divergent effects of demographic factors in different countries, but so far the evidence in support of these theories is weak.

(d) Population aging can induce unequal effects on the demand for investment and the availability of domestic savings even within an economy completely closed to the rest of the world. In national economies that are open, the effects of demographic change are still more complex. Significant parts of the required macroeconomic adjustments can be channeled through exchange rate movements and external-sector transactions. The timing and size of demographic transitions differ widely across countries. Countries with faster demographic transitions and greater population aging are likely to experience an appreciation of their currencies and strengthening of their current-account balances. Such changes cushion the rapidly aging economies from the full effects that demographic shocks would produce in a closed economy. The openness of an economy works to mitigate the negative consequences of population aging on domestic output and consumption. Countries that age more slowly, on the other hand, may experience adverse effects as a result of openness. For the high-income industrial countries, which are aging faster than developing countries, domestic demand for investment funds might initially tend to fall faster than national saving, thereby causing investment funds to flow to developing parts of the world where investment demand remains buoyant. It is uncertain, however, whether industrial countries as a whole can feasibly run large, sustained current-account surpluses with developing nations (exporting some of their higher savings to finance productive investments in developing nations). In order for such a major change in the saving-investment balance of developing regions of the world to occur, low-income countries will have to make major progress in macroeconomic management, prudential supervision of financial markets, and greater security for contracts.

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